

REMARKS

In accordance with the foregoing, claims 1 and 5 are amended and new claims 21-24 are presented. No new matter is presented, and approval and entry of the amended claims and new claims are respectfully requested.

Claims 19 and 20 are cancelled herein without prejudice or disclaimer.

Claims 1, 3, 5, 7, 9-12, and 21-24 are pending and under consideration. Reconsideration is respectfully requested.

Claim Amendments

Independent claim 1 is amended herein to recite an optical transmission device including "a WDM port as a port for transmission and reception of a wavelength-multiplexed signal; and a wavelength multiplex/demultiplex unit, the wavelength multiplex unit including a plurality of optical filters that are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with a wavelength-dependent loss characteristic, and each of the plurality of optical filters has a function of a band-pass filter and a same insertion loss." Independent claim 5 is amended herein in a similar fashion.

The amendment of claims 1 and 5, herein, in part, removes the recitation respectively added to claims 1 and 5 in the previous Amendment filed April 1, 2008 ("previous Amendment").

No new matter is presented, and approval and entry of the amended claims are respectfully requested

Item 2: Rejection of claims 1, 3, 5, 7, and 9-12 under 35 U.S.C. §112, second paragraph

In item 2 of the Office Action, the Examiner rejects independent claims 1 and 5 (and dependent claims 3, 7, and 9-12) under 35 U.S.C. §112, second paragraph as being indefinite. The Examiner asserts:

It is unclear whether the above limitations are steps of a procedure or functions of means.

(See, for example, Action at page 3, lines 19).

Independent claims 1 and 5, both as amended herein, delete the recitations respectively added by the previous Amendment and address the Examiner concerns.

Applicants submit that claims 1, 3, 5, 7, and 9-12 comply with 35 U.S.C. §112, second paragraph. Thus, withdrawal of the rejection is requested.

Items 4-5: Rejection of Claims under 35 U.S.C. §103(a)

In item 4 of the Office Action the Examiner rejects independent claims 1 and 5 under 35 U.S.C. §103(a) as being unpatentable over Tamura et al. (EP 0 153 722 A2) in view of Zhang (U.S.P. 6,937,809) and Persson et al. (U.S.P. 7,110,673).

In item 5 of the Office Action, the Examiner rejects dependent claims 3, 7 and 9-12 under 35 U.S.C. §103(a) as being unpatentable over Tamura et al., Zhang and Persson '673 and further in view of Persson (U.S.P. 519,384).

The rejections are traversed. Applicants submit that features recited by each of the independent claims (and respective dependent claims) are not taught by an *arguendo* combination of the art relied on by the Examiner. Independent claim 1, for example, recites an optical transmission device including "a WDM port as a port for transmission and reception of a wavelength-multiplexed signal; and a wavelength multiplex/demultiplex unit, the wavelength multiplex unit including a plurality of optical filters that are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with a wavelength-dependent loss characteristic, and each of the plurality of optical filters has a function of a band-pass filter and a same insertion loss." Claim 5 recites an optical system including first and second optical transmission devices each having a similar recitation as the device recited by claim 1.

Applicants submit that the art of record does not teach a device including having "a loss characteristic weighted at the plurality of wavelengths in correspondence with a wavelength-dependent loss characteristic, and each of the plurality of optical filters has a function of a band-pass filter and a same insertion loss," as recited by claim 1, for example.

In support of the rejection of independent claim 1, the Examiner asserts that

The difference between Tamura . . . and the claimed invention is that Tamura . . . does not teach equalizing the power level of the channels. Zhang teaches in FIG. 1 a wavelength multiplexer with variable optical attenuation. One of ordinary skill in the art . . . motivated to combine the teaching of Zhang with the multiplexer/demultiplexer of Tamura . . . because equalization gives each channels the same performance. . . . obvious . . . to use attenuators for equalizing the power level of the channels, as taught by Zhang, in the multiplexer/demultiplexer of Tamura . . . because equalization gives each channel the same performance.

(Emphasis added, See, Office Action at page 4, line 23 - page 5, line 6)

Applicants point out that the feature of "equalizing the power level of the channels" is not literally recited in claim 1. In support of the rejection, the Examiner relies on Fig. 1 of Zhang as teaching a wavelength multiplexer with variable optical attenuation.

By contrast with the recitation of claim 1, Zhang merely teaches:

FIG. 1 shows that four separate channel signals 102-104 are received at the equalizer 100, each of the four separate channel signals 102-105 has a wavelength at λ_1 , λ_2 , λ_3 , or λ_4 and a different signal strength 106, 107, 108 or 109. The four separate channel signals 102-104 are equalized in the equalizer 100 that in turn outputs a signal 110 with four equalized channel signals. λ_1 , λ_2 , λ_3 , or λ_4 the equalizer 100 includes four Reflection/Transmission Variable Optical Attenuators 112, 114, 116 and 118, each being referred to as a RT-VOA herein. To regulate only one wavelength, each RT-VOA is configured to process that wavelength and bypass or reflect other wavelengths. For example, when λ_1 , λ_4 is received at RT-VOA 112, the signal at λ_4 is transmitted through to be regulated therein accordingly. When λ_3 is received at RT-VOA 114, the signal at λ_3 is transmitted through, wherein it is regulated accordingly as well. However, the signal λ_4 is coupled to RT-VOA 114 that is configured to process λ_3 and hence bypasses or reflects λ_4 together with λ_3 output from RT-VOA 114 to RT-VOA 116..

(See, for example, col. 4, lines 12-37).

That is, Zhang illustrates in Fig. 1 that each RT-VOA controls the signal strength of an optical signal X1 to X4 before it is supplied to another RT-VOA.

Applicants submit that such an operation taught by Zhang does not teach a controlling wavelength characteristics of a WDM light based on how many times each wavelength signal is reflected at RT-VOAs (e.g., M is reflected three times whereas X1 zero times) as in the claimed apparatus having "a loss characteristic weighted at the plurality of wavelengths in correspondence with a wavelength-dependent loss characteristic," as recited in claim 1, for example.

Applicants submit that nothing in the teachings of Tamura, Persson 673', or Persson 384' alone or in *arguendo* combination overcomes the deficiencies discussed above. Thus, the rejection should be withdrawn.

* * *

Applicants point out that in the previous Office Action, the Examiner supported the rejection of claim 1 by relying on Miyata teaching in Fig. 3, and paragraphs [0039], [0040], [0042] taught "hav[ing] a loss characteristic weighted at the plurality of wavelengths in correspondence with said wavelength-dependent loss characteristic." (See, for example, previous Office Action, page 2, line 24 - page 3, line 2).

But, Applicants submit by contrast with the recitation of claim 1, Miyata merely teaches:

The correcting circuits 34(#1) and 34(#2) are provided to perform weighting for compensation for loss of the selected light from the second optical filter unit 28(#2) due to the fact that the selected light having a wavelength according to the RF frequency is output from the first optical filter unit 28(#1). Accordingly, it is possible to commonly handle the electrical signals from the O/E converters

32(#1) and 32(#2) converted from the selected lights having different levels output from the first and second optical filter units 28(#1) and 28(#2).

(See, for example, paragraph [0040]).

That is, Miyata teaches it is not the optical filter units 28, but rather a correcting circuit 34, that performs "weighting for compensation for loss of the selected light."

Further, Miyata illustrates in FIG. 3 that every correcting circuit 34 is located after O/E 32. Thus, Miyata teaches that a correcting circuit 34 varies the amount of loss of electrical signals --, not optical signals. Thus, correcting circuits 34 are distinct from optical filters that a loss of optical signals is the issue.

Thus, Applicants submit that the Examiner's interpretation of Miyata as teaching a wavelength multiplex/demultiplex unit as recited by claim 1 is in error.

* * *

Claims 3 and claims 7 and 9-12 respectively depend from independent claims 1 and 5 and inherit those patentably distinguishing recitations and accordingly are likewise submitted, for the same reasons, to be allowable.

Conclusion

Thus, the rejection of claims 1, 3, 5, -7, and 9-12 should be withdrawn and the claims allowed.

New Claims

New claims 21-24 are presented to recite features in a different fashion. New claims 21-22 recite an optical apparatus inputting a WDM light, in which a plurality of signal lights are multiplexed, comprising: "a plurality of optical filters having input ports, through ports, and reflecting ports, respectively, each of the plurality of optical filters having characteristics for a light received at the input port so that one of the plurality of signal lights is configured to be output to the through port and others of the plurality of signal lights are configured to be output to the reflecting port; and a plurality of connectors daisy-chain connecting the plurality of optical filters with reflecting ports and input ports, wherein an order of the daisy-chain connection of the plurality of optical filters corresponds to wavelength characteristics of the WDM light."

New claims 23-24 recite an optical transmission system apparatus inputting a WDM light, in which a plurality of signal lights are multiplexed, comprising: "a first optical apparatus inputting a WDM light, in which a plurality of signal lights are multiplexed, comprising: a plurality of optical filters having input ports, through ports, and reflecting ports, respectively, each of the plurality of optical filters having characteristics for a light received at the input port so that one of the

plurality of signal lights is configured to be output to the through port and others of the plurality of signal lights are configured to be output to the reflecting port; and a plurality of connectors daisy-chain connecting the plurality of optical filters with reflecting ports and input ports; an OSC filter through which insertion of an OSC signal for maintenance control is performed; and a second optical apparatus inputting a WDM light, in which a plurality of signal lights are multiplexed . . . , wherein an order of the daisy-chain connection of the plurality of optical filters corresponds to wavelength characteristics of the WDM light."

Support for the new claims is found, for example, in Figs. 2 and 9, page 13, line 21 - page 14, line 20 and page 23, line 13 - page 25, line 10.

No new matter is being presented, and approval and entry of new claim 21-24 are respectfully requested. These features of claims 21-24 patentably distinguish over the art currently relied on by the Examiner, and they are submitted to be allowable for the recitations therein.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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